

We Claim:

1. A method of managing waste and/or animal protein-containing streams in extrusion processing, comprising the steps of:

5 providing an incoming waste stream including respective quantities of fat, protein, and moisture;

blending said stream in a blender with the optional addition of additives to said 10 blender;

using an analyzer to analyze said blended material to determine at least the moisture content thereof;

15 creating an output stream downstream of said analyzer;

adjusting the characteristics of said output stream in response to said analysis by addition of further quantities of said waste stream and/or fat, protein, starch and water; and

directing said adjusted output stream to an extruder for extrusion processing 20 thereof.

2. The method of claim 1, said adjusting step comprising the step of recirculating at least a portion of said analyzed stream and addition of said portion to said 20 blender.

3. The method of claim 2, said adjusting step comprising the step of adding ingredients selected from the group consisting of fat, protein, starch and/or water to said blender.

25 4. The method of claim 2, including the step of storing data from said analysis in a microprocessor operably coupled with said blender and said analyzer, and using said microprocessor to control the operation of said blender.

30 5. The method of claim 1, including the step of reducing the particle size of said stream prior to entrance thereof into said blender.

6. The method of claim 1, including the step of adding steam and/or carbon dioxide to said blender.

7. The method of claim 1, said method being a batch method.

5 8. The method of claim 1, said method being a continuous method.

9. The method of claim 1, said analysis step including the steps of analyzing the stream to determine at least one characteristic of the stream selected from the group 10 consisting of the protein content, fat content, starch content, pH, viscosity, solids content and presence of contaminants.

10. The method of claim 9, including the step of analyzing the stream to determine a plurality of said characteristics.

15 11. The method of claim 1, said analyzer selected from the group consisting of microwave, infrared, X-ray and ultrasound analyzers.

12. The method of claim 11, including the step of using a plurality of said 20 analyzers to analyze said emulsified material.

13. The method of claim 1, including the step of introducing other additives into said extruder for extrusion thereof along with said adjusted output stream.

25 14. The method of claim 13, said other additives selected from the group of fat, tallow, water and steam.

15. The method of claim 1, including the step of emulsifying said blended stream prior to said analysis step.

30 16. The method of claim 15, said emulsification being carried out so that the

stream comprises particles having a maximum dimension of up to about 7mm.